Placenta Accreta Following Uterine Artery Embolization

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SUMMARY

Objective: Uterine artery embolization (UAE) is becoming a common treatment for symptomatic leiomyoma. Several pregnancies following UAE have been reported. However, reports are still limited and the risk of complications remains unknown.

Case Report: A primigravida conceived after UAE for leiomyoma. She delivered spontaneously at 34 weeks plus 2 days after premature rupture of the membranes. The placenta was located on the interstitial leiomyoma. The patient required manual placental extraction owing to retained placenta and subsequently underwent emergency supracervical hysterectomy for severe postpartum hemorrhage. Placenta accreta was confirmed histologically.

Conclusion: Placenta accreta may occur during pregnancy following UAE. When the implantation site is on the leiomyoma with a hyperechoic rim, there is a high risk of abnormal placental adherence. [*Taiwan J Obstet Gynecol* 2010;49(2):197–198]

Key Words: placenta accreta, postpartum hemorrhage, pregnancy, uterine artery embolization, uterine myoma

Introduction

Uterine artery embolization (UAE) is a minimally invasive therapy for uterine leiomyoma according to the American College of Obstetricians and Gynecologists committee. Although UAE for women who want to retain their fertility remains investigational or relatively contraindicated [1], there have been only a few reports of pregnancies after UAE. The risks for pregnancy following UAE remain unknown. We report here a case of placenta accreta following UAE for uterine leiomyoma.

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Case Report

The patient was a 30-year-old primigravida woman. She had undergone UAE for interstitial uterine leiomyoma in the anterior wall. The myoma was reduced in volume by 22% after treatment. She then conceived 2 years after the treatment. The placenta was located on the calcified rim around the leiomyoma, which had a diameter of 4 cm. The patient was admitted to hospital for premature rupture of the membranes at 34 weeks of gestation. After onset of labor, she normally delivered a vigorous female infant weighing 1,950 g at 34 weeks and 2 days of gestation. The placenta was retained despite traction on the cord. We removed the placenta manually owing to increasing postpartum hemorrhage. However, the bleeding continued after removal. The patient entered a state of hypovolemic shock, and we performed emergency supracervical hysterectomy. Total blood loss was more than 5 L, and 24 units of packed red cells and 18 units of

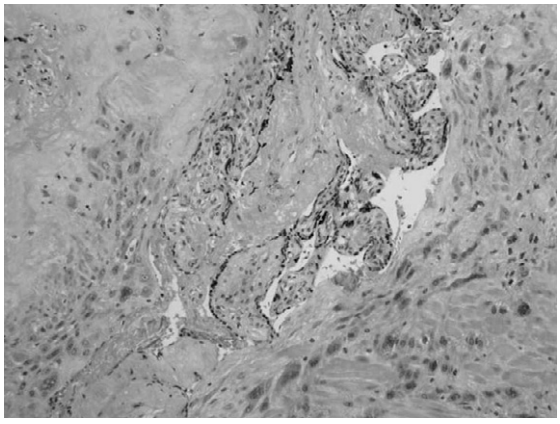

Figure. The villi are implanted directly on the myometrium of the uterine wall.

fresh frozen plasma were transfused. The postoperative course was uneventful, and the patient left the hospital 10 days later. Placenta accreta was confirmed histologically, although the finding was unclear macroscopically (Figure). The uterine leiomyoma showed low cellular components with calcification and degeneration.

Discussion

UAE is currently a common treatment for uterine leiomyoma. It was first reported by Ravina et al [2] in 1995. There have been several reports of pregnancies following UAE. Goldberg et al [3] reviewed cases of pregnancy following UAE and concluded that there were risks for malpresentation, preterm birth, cesarean delivery, and postpartum hemorrhage. Two cases of placenta accreta following UAE have been reported. Pron et al [4] reported one case among 18 pregnancies following UAE. The patient was a 34-year-old primigravida woman. A cesarean section was performed because of secondary arrest at 41 weeks' gestation. Cesarean hysterectomy was performed owing to prolonged retained placenta. Histologic findings showed placenta accreta. El-Miligy et al [5] also recently reported a case of partial placental accreta, which, however, was not proven histologically.

Abnormal placental adherence usually occurs in patients with a history of uterine surgery or placenta previa. The placental position in our case was normal, and the only past history was UAE. Therefore, we speculate that the UAE was associated with placenta accreta. In addition, the implantation site was just on the leiomyoma with degeneration and calcification. Peripheral calcification of a leiomyoma is observed 6 months after UAE and is believed to be the end stage of hyaline degeneration. When the reduction rate is more than 50%, a peripheral hyperechoic rim around the leiomyoma can form [6]. The reduction rate in our case was 78%, and we observed a calcified rim. UAE had a positive effect on leiomyoma reduction in our case.

Effective UAE indicates "strict" embolization. Pathologic features after UAE in some cases include foci of myometrial necrosis beyond the confines of the leiomyomas [7]. The endometrium around the leiomyoma may have a tendency to result in necrosis from effective UAE. The mechanism of placenta accreta in our case might have been the result of infarction of the uterine endometrium following UAE, which led to deficiency of the decidua basalis and resulted in abnormal trophoblast invasion into the myometrium.

Despite the American College of Obstetricians and Gynecologists committee opinion [1], the number of pregnancies after UAE may increase in the near future as UAE becomes a common treatment for leiomyoma. The possibility of placenta accreta should be considered in pregnancy after UAE, especially when the implantation site is on a calcified rim around leiomyoma, where the risk may be much higher.

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